No. 11,019

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

THE PERMANENTE METALS CORPORATION
(a corporation),
Appellant,

vs.

B. PISTA and MARIE PISTA,
Appellees.

BRIEF FOR APPELLEES.

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JURISDICTIONAL STATEMENT.

We acquiesce in appellant's statement of jurisdiction.

STATEMENT OF THE CASE.

The judgment awards to appellees damages for injury during the 1943 season to the crop from their apricot orchard caused by discharge into the atmosphere of finely crushed and calcined particles of dolomite from the stacks of appellant's nearby calcining plant in the Natividad district near Salinas, California.

Some corrections of appellant's statement of the case, their pages 2, 3 and 4, are needed. They say:

> "Appellee's apricot orchard is approximately a mile distant from the plant."

Finding II, R. 31, reads:

> "II. Plaintiffs are the owners of the real property described in paragraph 2 of their complaint and it consists of a ranch of approximately 56 acres, of which 44 acres comprise an apricot orchard which has been in full commercial bearing since approximately the year 1922. The exterior boundary of said orchard nearest the stacks hereinafter mentioned is approximately half a mile therefrom and the farthest exterior boundary is approximately one mile from said stacks."

They say that in 1943 "dust was discharged from the stacks of appellant's plant, some of which settled on appellee's orchard". The *quantity* discharged during the critical period in 1943 was enormous. The following portions of the findings, R. 31 and 32, are not attacked by appellant's brief:

> "III. In the Natividad district, in Monterey County, California, the defendant has operated continuously since August 4, 1942, a dolomite quarry and calcine plant, the latter consisting of two rotary kilns in which crushed dolomite ore from said quarry is calcined at a temperature sufficiently high to expel from said ore the carbon dioxide therein, which is expelled in the form of a stream of hot gas into the atmosphere through two stacks, one to each of said kilns. Said stream of gas carries with it into the atmosphere extremely fine particles, i.e., dust, from said crushed ore. From the commencement of the operation, as aforesaid, in August, 1942, until a year

thereafter, in August, 1943, said dust was discharged out of said stacks into the atmosphere at an average rate of approximately 32 tons daily. In August, 1943, defendant installed as a part of said operation a mechanism known as a Cottrell precipitator, and since that installation the quantity of dust discharged from said stacks into the atmosphere has been reduced to a daily average of approximately 4 or 5 tons.

IV. Said dust, after discharge into the atmosphere, falls upon the ground and the vegetation thereon within a roughly circular area having a radius of approximately 3 miles from said stacks.

V. The dustfall, as aforesaid, was continuous upon said orchards of plaintiffs throughout the whole of the apricot blossoming time therein in the early part of the year 1943 * * *."

Appellant's statement says that in the 1943 season

> "The apricot yield in Monterey County was approximately 20% of normal".

Their own agricultural expert, Mr. Packard, admitted during his cross-examination that the production of apricots in 1943 in Monterey County was 55% of the average production in preceding years, R. 639-640, and that the statewide average in California in 1943 was 42%, R. 630.

STATEMENT OF QUESTIONS INVOLVED.

Presumably, appellant uses this heading as a substitute for the specification of errors required by Rule 20(d). If so, it does not comply with the second sentence of Rule 20(d), with respect to the manner of specifying error alleged as to the admission or rejection of evidence.

ARGUMENT.

Appellant's argument upon the evidence pays little or no regard to that portion of Rule 52, FRCP, reading:

> "Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses."

Thereunder, this Court has said with respect to conflicts in the evidence:

> "This court has held that the rule is well settled that an appellate court will not disturb findings of the trial court based on conflicting evidence taken in open court except for clear error. Pacific American Fisheries v. Hoof, 9 Cir., 291 F. 306, 308; United States v. Chinook Investment Co., 9 Cir., 136 F. 2d 984, 985; Fox et al. v. Summit King Mines, Limited, 9 Cir., 143 F. 2d 926, and citations therein. Furthermore, this court in National Surety Company v. Globe Grain & Milling Co., 9 Cir., 256 F. 601, 4 A.L.R. 552, said that even where the appellate court is convinced that the finding could have been otherwise upon the evidence, the findings of the trial court are conclusive.
>
> The findings of the trial court have the same effect as the verdict of a jury and should not be set aside unless clearly erroneous. 28 US.C.A. § 773."
>
> *Hartford Accident & Indemnity Co. v. Jasper,* 9 Cir., 144 F. 2d 266, 267-268.

In *Seaboard Sand & Gravel Corp. v. American Stevedores,* 2 Cir., 151 F. 2d 846, at 847, col. 1, the Court said:

> "As these findings were based on the evidence of witnesses who testified in court, which if believed was

> a sufficient basis for them, we accept them since it is thus made apparent that they are not clearly erroneous",

to which the Court cited *Petterson Lighterage & T. Corp. v. New York Central R. Co.*, 2 Cir., 126 F. 2d 992, where, at p. 996, col. 2, it had said,

> "that complex of sight and sound, from which we make our conclusions in a courtroom, is in large part eviscerated when reduced to the printed word."

DISCUSSION OF QUESTIONS 1, 2 AND 3.

Under this heading, appellant commingles argument on sufficiency of evidence with arguments on admissibility of evidence. We will make separate replies. The two questions are wholly distinct.

> "Where, as here, the insufficiency of the evidence is the question to be determined, full weight must be given to evidence which would have been excluded had objection been made, and even to evidence erroneously admitted against objection provided it be relevant. Evidence may tend to prove the issues and yet be incompetent. Hayne on New Trial and Appeal, § 98."
>
> *Holzer v. Read,* 216 Cal. 119, 123, 13 Pac. 2d 697, 698.

At most, in a non-jury case, an Appellate Court merely disregards erroneously admitted evidence and affirms findings supported by the relevant, competent and material evidence:

"In an equitable or other case tried by the court without a jury the appellate court considers only relevant, material, and competent evidence and disregards all other evidence, whether objected to or not."

5 *C. J. S.* 136-137, note 37.

(a) Sufficiency of the evidence.

Under this heading we will present evidence received without objection. Much of it is from appellant's witnesses.

A chemical analysis of the dolomite in the quarry, before calcining in the kilns, disclosed the following composition, R. 155:

"Silica (SiO_2) 0.05%
Iron and Alumina (R_2O_3) 0.18%
Calcium Carbonate ($CaCO_3$) 56.34%
Magnesium Carbonate ($MgCO_3$) ..... 43.40%"

Appellant's chemist, Dr. Duschak, testified, R. 236-237:

"Dolomite is a mineral which consists essentially of equal molecular quantities of calcium carbonate and magnesium carbonate. If I might refer to this writing made by Mr. Twining on the board, this first item in the circle, here, reading $CaCO_3$ $MgCO_3$ bracketed—that describes the composition of what we might call theoretically pure dolomite. Sometimes there is a little excess of magnesium carbonate or an excess of calcium carbonate. The composition is not absolutely fixed, that is, there is quite a range of composition of materials which would all be classed as dolomite, and then in addition to these two essential constituents we are apt to find small amounts of so-called impurities, such as silica, iron compounds, and

aluminum compounds, and possibly other substances in a small amount."

With respect to the chemistry of the calcining operation he testified, R. 240-241:

"Q. Doctor, will you describe to his Honor the chemical reaction or process that takes place when this dolomite ore is crushed and then put into the kilns under this temperature?

A. Yes, the operation is a very simple one. The crushed dolomite is heated by an intensely hot flame.

Q. Can you give us approximately the heat that it is heated to?

A. Heated to a temperature of twelve or thirteen hundred centigrade; that for the purpose of decomposing the dolomite, driving out the carbon dioxide and leaving behind the so-called calcine dolomite, which consists of a mixture of calcium and magnesium oxides together with the small amounts of impurities present.

Q. What is left behind is magnesium oxide and calcium oxide, is that correct?

A. That is the main product of the kiln, the product which is sought in the operation, a mixture of calcium and magnesium oxide with a small amount of impurities.

Q. What becomes of the carbon dioxide?

A. That carbon dioxide which is expelled from the dolomite on heating, together with the carbon dioxide from the combustion of the carbonaceous materials and the fuel used, pass up the stack together with the nitrogen which accompanies the oxygen used in burning the fuel.

Q. In the course of this trial there has been reference to dust. That dust comes from what source?

A. That dust is picked up by the stream of hot gas flowing through the kiln.

Q. And it goes where?

A. And it is carried along by the gas stream out through the so-called kiln housing, and since the Cottrell precipitator has been installed it passes through that; most of the dust is collected there. What is not collected passes on to the stack. A small amount will collect in the base of the stack, but a further small amount is carried up through the stack by the gas stream and discharged into the atmosphere."

It requires 1.834 tons of raw dolomite from the quarry, i.e., the mixture of calcium carbonate and magnesium carbonate, to produce one ton of kiln product, i.e., the mixture of calcium oxide and magnesium oxide, R. 423-424. The loss in weight comes from the weight of the carbon dioxide in the carbonates that the calcining expels in the form of a stream of hot gas out of the top of the stacks. That gaseous stream carries the dust particles along with it out of the top of the stacks. In size, 48% of the particles were 325 mesh (0.046 millimeter) and 52% were 5 to 10 microns in diameter, R. 320-321. One *pound* of the dolomite would make 1.66 *billion* particles of 325 mesh (46 microns on an edge); or 161.8 billion particles 10 microns in diameter; or 1295.5 billion particles, 5 microns in diameter, R. 430-431. For a year from the beginning of the operation of the calcining plant in August, 1942, until the installation of the Cottrell precipitators in August, 1943, the dust was discharged out of the stacks at an average rate of 32 tons daily. (Finding III, R. 31.) The critical period was the period of pollination and fertiliza-

tion, i.e., the period of white blossoms in appellees' apricot orchard, which in 1943 extended over three weeks beginning March 10, R. 695-696. During that period, March 10 to 31, the two kilns were operating on a 24-hour basis, one kiln continuously, and the other kiln 12 days of the 21, R. 409. A maximum capacity or load per kiln is 190 to 200 tons per kiln of finished product, R. 416, and through March, 1943, they were operated at the rate of 160 tons per day per kiln, R. 417.

On the question whether the dust injured the crop, the major trial issue was whether the dust landed in the orchard as oxides or hydroxides, or whether by the time of landing there had been a reversion to carbonates. Chemistry witnesses agreed that the dust when carbonate is an inert or neutral powder of chalky appearance, i.e., is neither alkaline or caustic, but that while oxide or hydroxide before reverting to carbonate it is alkaline, caustic. Appellant's chemist, Dr. Duschak, testified on cross-examination with respect to the effect of deposit of an alkaline substance on an apricot blossom, R. 447-449:

> "Q. * * * Take the stigma in an apricot blossom. That is part of the fertilizing medium of the blossom, isn't it?
>
> A. I would say part of the fertilizing mechanism.
>
> Q. Mechanism—I will accept the statement. Now, does that stigma secrete or exude some substance?
>
> A. Yes, at a certain time in the development of the blossom it secretes a small amount of viscous fluid.
>
> Q. Is that viscous fluid thus secreted part of the process of pollinization and fertilization?
>
> A. Yes, that is an essential part of the process.

Q. Is that viscous fluid acid or alkaline?

A. It is stated that it is slightly acid.

Q. Calcium oxide coming in contact with that would neutralize that acidity, wouldn't it?

A. If it dissolved, and if the quantity were sufficient.

Q. Now, you say if it dissolved. That viscous fluid contains some H_2O, does it not?

A. Yes.

Q. Calcium oxide has a strong appetite for H_2O, has it not?

A. Yes.

Q. As a matter of fact, wouldn't a deposit of calcium oxide on that viscous fluid secreted by the stigma immediately draw out of that viscous fluid the water in it and into the calcium oxide?

A. If we are speaking of a grain of pure calcium oxide, the answer is yes.

Q. Let us speak of a grain of calcium oxide that came immediately and directly from the calcium carbonate of that quarry on the hill there in Natividad. Wouldn't that have a strong appetite for the water or the H_2O in that viscous fluid of the stigma?

A. I don't know any way of getting a grain of pure calcium oxide from that quarry on the hill, because that is dolomite.

Q. Then let us call it an impure calcium oxide that was originally quarried out of the rock on the hill. Would that impure calcium oxide have a strong appetite for the water or H_2O in that viscous fluid of the stigma?

A. Yes.

Q. And if that calcium oxide landed on that viscous fluid it would exercise its appetite, take the water

of the viscous fluid, and turn the calcium oxide into a hydroxide, wouldn't it?

A. Yes, if the particle were calcium oxide on the surface.

Q. Wouldn't that simply be the difference of changing it from a slaked to an unslaked caustic lime?

A. Yes.

Q. Generating the heat and with the destructive power that the slaking of caustic lime generates?

A. Yes, I would expect that. I would expect that if a particle of calcium oxide lands on some moist vegetable surface and reacts with moisture there, that there would be a certain amount of heat generated and probably a little burn or caustic action, as we call it, evidenced.

Q. If that occurred on the viscous fluid or secretion of a stigma on an apricot blossom would you not expect that it would destroy fertilization?

A. Without question.

Q. There is no doubt about that, is there?

A. No doubt about that at all."

Appellant's agriculture expert, Mr. Packard, testified, R. 593:

"Q. What effect, if any, does caustic material landing on the stigma have?

A. Caustic material landing on the stigma would neutralize the acid reaction of the stigma.

Q. Would it affect fertilization?

A. Yes, if the area that is affected by the calcium hydroxide comes in contact with the pollen. If the pollen drops on a portion of the stigma that is not affected, of course, there would be no effect at all.

Q. It is the killing of the pollen, is it, or the killing of the stigma and this watery substance? Which is it?

A. It is the killing of the pollen."

The conflict in the evidence on the major trial issue arose over the chemical composition of the dust when it landed in the orchard. Appellant's chemist, Dr. Duschak, testified, R. 241-244:

"Q. And what is that dust? What is its chemical composition as it is discharged into the atmosphere?

A. That is a somewhat difficult question to answer. That is to say, the only way in which a precise answer could be obtained would be by collecting a sample of this material just as it escapes from the stack.

Q. Pardon me. May I interrupt for a minute? Approximately how tall are the stacks?

A. These stacks are approximately 200 feet tall. [He was in error; appellant's plant superintendent stated the height as about 120 to 130 feet, R. 420.]

Q. If you will proceed, please.

A. I have taken some samples at an elevation of about 100 feet, and I haven't with me at the moment the complete analyses of these samples, but I may say in general they will show the dust consists to a large extent of calcium and magnesium carbonate with a small amount of calcium and magnesium oxides and, of course, the traces of impurities.

I might explain further that this dust is material which is picked up throughout the length of each of the kilns. There are two kilns there. Their operation is in general identical. So that we will find the dust not consisting of a single material, but consisting of particles of entirely unchanged dolomite, the dolomite particles which have experienced slight calcination on the surface, and finally the particles which have been quite completely calcined. In other words, the dust, in a sense, represents a sort of average sample of the material which is in the kiln at any given time, rang-

ing all the way from the raw material at the one end to the completely calcined material at the other.

Q. You say you took samples about a hundred feet up the chimney?

A. About halfway up the stack.

Q. As that dust or gas, dust in gaseous form, passes up your chimney what chemical reaction takes place, if any, in your opinion, as it proceeds?

A. The chemical decomposition process which took place in the kiln begins to reverse itself as soon as the dust particles are removed from the high temperature zone. Calcium carbonate cannot be decomposed below a temperature of 900° C. * * * which is a bright red heat * * *. Magnesium carbonate cannot be decomposed below a temperature of 700° C. That is a moderate red heat. As soon as these calcine particles which contain magnesium carbonate and oxides pass to the point in the kiln where the temperature is below these levels, and in the presence of the kiln atmosphere containing both the carbon dioxide and the moisture, these oxide particles will begin to recombine with the carbon dioxide, and that process goes on progressively as the dust particles are carried through the flue system, up the stack, and continue out in the atmosphere.

Q. When they come into the atmosphere does their contact with the air also have some effect on the chemical characteristics of these dust particles?

A. This process of carbonation, as it might be called—that is, a conversion of the oxides into carbonates—it will go on continuously while the dust particles are in contact with the atmosphere, for the reason that the atmosphere contains a small amount of carbon dioxide and also contains moisture, which tends to catalyze or speed up this reaction.

Q. Eventually these dust particles which were originally oxides are, through contact with the air and with the carbon dioxide therein, and water, H_2O, converted into what, Doctor?

A. They become converted into calcium and magnesium carbonates. That is, chemically they become the same as the original calcine dolomite.

Q. In other words, eventually they become the same as the dolomite that is mined out of the quarry, is that it?

A. Yes.

The Court. Q. In its original state?

A. Not quite, because dolomite has a characteristic crystalline structure, and these little particles, when they are recarbonated, will not resume that crystal structure. There is that physical difference, but no chemical difference."

Dr. Duschak never analyzed the dust at the top of the stacks, R. 446, nor any freshly fallen dust in the orchard. The only analysis ever made by him was of dust taken halfway up the stack. His analysis showed 23% oxides, R. 313; he said, "I did not test for hydroxide, that is the reason I did not find it", R. 445. Appellant's agriculture expert, Mr. Packard, never made any test for oxides or hydroxides in the orchard, R. 647-648.

As against the *opinions* of appellant's witnesses about the theoretical absence of oxides or hydroxides at the time of landing on the orchard, we proved that as a *fact,* not mere opinion or theory, oxides and hydroxides were present in the dust when it landed on the orchard. Our chemist, Mr. Twining, made an analysis *in the orchard* of recently fallen dust, and he found as a *fact* that oxides and hydroxides were present. He testified, R. 700-702:

"Q. Did you or not test the recent deposit of dust in the Pista orchard from the Permanente stack to determine the presence or absence of any oxide?

A. Yes.

Q. Did you or not test day before yesterday right in the Pista orchard itself recently fallen dust from the stack to determine the presence or absence of hydroxide?

A. Well, the alkalinity would be oxide and hydroxide.

Q. All right. Now, upon that actual examination right within the orchard of dust freshly fallen, what did you find with respect to the absence of oxides and hydroxides?

A. They were present in the dust.

Q. In the dust—you mean the Permanente dust?

A. Yes, that is, the dust on the trees and vegetation there.

Q. State from your inspection whether you can say one way or the other whether the Permanente dust—out of the Permanente stack—had fully carbonated by the time it landed on the Pista vegetation.

A. A considerable portion of it has not. It carbonates very slowly.

Q. Now, state just how you went about this test, what you as a chemist did to make the test. * * *

A. We used indicators—certain indicators that show whether the solution is alkaline.

The Court. Q. Tell us what they were.

A. We used phenol red and phenolphthalein, two different indicators I used.

Mr. Naus. Q. How were they used, Mr. Twining?

A. Well, they are the solutions that we add to a solution of the dust to determine whether it is an oxide or hydroxide. We make a watery solution, we

use the indicators and from the color we know whether it is acid or alkaline.

Q. Then the chemical reaction is one of color is it?

A. That is right.

Q. What color did you get reacted there to determine the presence——

A. In both cases we get a red—deep red."

And on cross-examination, R. 704-706:

"Q. All right. Now we come to your testimony that has just been given. You say when you were down there the kilns were not operating.

A. Tuesday.

Q. And yet you say you took freshly fallen dust.

A. Well, that may have been two or three weeks old. Sometimes it don't carbonate for months.

Q. Now, do I understand you—what do you mean by 'carbonate'?

A. I mean that it is—the hydroxide unites with carbon dioxide to form a carbonate. That may take a long time; it depends on the amount of carbon dioxide in the atmosphere and the condition of oxide or hydroxide.

Q. Well, very small particles of magnesium oxide or calcium oxide passing out in the form of dust, don't they start to carbonate the moment they come in contact with the air?

A. The moment they come in contact with carbon dioxide, of which there is a very small amount in the air.

Q. Will you please answer my question: Don't they commence to carbonate as soon as they come in contact with the air?

A. You might say 'commence', yes.

Q. As a matter of fact, they commence going up the stack there even before they come in contact with the air?

A. No, I think not.

Q. In other words, you disagree with Professor Duschak?

A. Not at a temperature of 900 or 1000 or more. There would be no use calcining it if it carbonated at those temperatures.

Q. I am asking you if they don't commence as they go up the stack. Don't they commence to pick up carbon dioxide?

A. Not at the stack temperatures.

Q. You are positive of that?

A. Yes."

(Mr. Twining's written reports, received in evidence without objection, R. 145, covering his earlier analyses appear as our Exhibit No. 4, at R. 146 to 156.)

Our proof of the fact of oxides and hydroxides in the fallen dust is opposed only by the opinion of appellant's witness. Facts outweigh "scientific" opinions or estimates contrary thereto, 32 *C.J.S.* 423, note 98; *Grant v. U. S.*, 74 F. 2d 302; *U. S. v. Ingalls*, 67 F. 2d 593, 596, col. 2, including the field of chemistry; 32 *C.J.S.* 425, note 4. The trial conflict in the evidence is therefore more apparent than real, because the opinion must yield to the fact; and the *fact* supports the judgment at bar.

As to quantum of injury, and the effect of rainfall, we will show the sufficiency of the evidence under the heading "Discussion of Question 5", infra.

The local law of California with respect to the liability for discharging into the atmosphere injurious substances

arising from an industrial operation will be found to embrace *inter alia* the following cases: *Hulbert v. California Portland Cement Co.,* 161 Cal. 239, 118 Pac. 928, 38 L.R.A. N.S. 436, and *California Orange Co. v. Riverside Portland Cement Co.,* 50 Cal. App. 522, 195 Pac. 694, "**cement dust**"; *People v. Selby Smelting & Lead Co.,* 163 Cal. 84, 124 Pac. 692, Ann. Cas. 1913E, 1267, smelter substances; *Centoni v. Ingalls,* 113 Cal. App. 192, 298 Pac. 47, dust from stockpiles of finely disintegrated dry clay; *McIntosh v. Brimmer,* 68 Cal. App. 770, 230 Pac. 203, dust from chicken ranch (this case cites *inter alia* Notes in 3 A.L.R. 312 and 11 A.L.R. 1401, "Dust as Nuisance"); *Miles v. A. Arena & Co.,* 23 C. A. 2d 680, 73 Pac. 2d 1260, calcium arsenate dust from power dusting attachment of airplane; *Tuebner v. California Street R. Co.,* 66 Cal. 171, 4 Pac. 1162; *Sullivan v. Royer,* 72 Cal. 248, 13 Pac. 655; *Dauberman v. Grant,* 198 Cal. 586, 246 Pac. 319, 48 A.L.R. 1244, and *Williams v. Blue Bird Laundry Co.,* 85 Cal. App. 388, 259 Pac. 484. The California rule as to dust constituting a nuisance gives a simple and clear test: Did the Natividad kiln dust cause "perceptible injury" to the Pista property? We quote:

> "A property owner is entitled to the peaceful enjoyment of his property free from any unlawful invasion of his rights of ownership by the act of another. Dust constitutes a nuisance if it 'causes perceptible injury to the property, or so pollutes the air as sensibly to impair the enjoyment thereof'. Tuebner v. California Street R. R. Co., 66 Cal. 171, 4 P. 1162, 1164; California Orange Co. v. Riverside Portland Cement Co., 50 Cal. App. 522, 195 P. 694; Hulbert v. California, etc., Co., 161 Cal. 239, 118 P.

928, 38 L.R.A. (N.S.) 436; McIntosh v. Brimmer, 68 Cal. App. 770, 230 P. 203."

Centoni v. Ingalls, supra (113 Cal. App. 192);

Miles v. A. Arena & Co., supra (23 C. A. 2d 680).

"Nor will the adoption of the most approved appliances and methods of production justify the continuance of that which, in spite of them, remains a nuisance. Evans v. Fertilizing Co., 160 Pa. 223, 28 A. 702, Susquehanna Fer. Co. v. Malone, 73 Md. 276, 20 A. 900, 9 L.R.A. 737, 25 Am. St. Rep. 595; Susquehanna Fer. Co. v. Spangler, 86 Md. 562, 39 A. 270, 63 Am. St. Rep. 533. See, also, Vowinckel v. N. Clark & Sons, 216 Cal. 156, 13 P. 2d 733; Judson v. Los Angeles Suburban Gas Co., 157 Cal. 168, 106 P. 581, 26 L.R.A. (N.S.) 183, 21 Ann. Cas. 1247; Fendley v. City of Anaheim, 110 Cal. App. 731, 294 P. 769; Williams v. Blue Bird Laundry Co., 85 Cal. App. 388, 259 P. 484."

Miles v. A. Arena & Co., supra (23 C. A. 2d 680).

And in California a clear distinction is drawn between cases of perceptible injury to property from dust and cases of mere personal discomfort. We quote:

"It is important to consider whether the acts complained of in any particular case cause an injury to property or only to the personal comfort of the complaining party. For there is a marked distinction between an action for nuisance in respect to an act producing a material injury to property, as where trees or fruit are injured by dust or noxious gases, and an action brought in respect to an act producing personal discomfort only, such, for example, as noises, disagreeable smells, et cetera. As to the latter,

> the person complaining of the annoyance must submit, in the interest of the public generally, to the discomfort usually incident to the circumstances of the place and the trades carried on around him. But the same rule does not apply where the injury is to property. See St. Helen's Smelting Co. v. Tipping, 11 H. L. Cas. 642."
>
> *McIntosh v. Brimmer,* 68 Cal. App. 770, 777, 230 Pac. 203.

(b) Admissibility of evidence.

1. "The law relative to Twining's testimony". (Appellant's Brief, p. 28.) At page 17 of appellant's brief a hypothetical question put by us to Mr. Twining is quoted, R. 169. Appellant's objection thereto, not quoted by it, appears at R. 169-170. In the text of the objection, to particularize it, counsel said, R. 170:

> "As I understand it, your Honor, a hypothetical question asked an expert witness, asking for his opinion, has to include every fact that has been disclosed in the evidence, and I do not think that Mr. Lewis' testimony is included here at all with regard to the cold and foggy weather and the three cycles of blossoming."

Appellant's argument to the objection is at pp. 28 to 33 of its brief, and is confined to the limitation of facts in the question.

The objection is unsound. Under Rule 43(a) FRCP, if evidence is admissible under either Federal or California law, the law "which favors the reception of the evidence governs". In *U. S. v. Aspinwall,* 9 Cir., 96 F. 2d 867, 869, this Court ruled:

"The objection that appellees limited the facts in question, or included a great many, is not tenable, we think. The questioner may limit the facts, and the fairness of the question is largely in the trial court's discretion. 1 Wigmore on Evidence, 2d Ed., §682."

In the Wigmore section there cited it is said:

"The question, on principle, need not include any particular number of facts; *i. e.* it may assume any one or more facts whatever, and *need not cover all the facts which the questioner alleges* in his case. The questioner is entitled to the witness' opinion on any combination of facts that he may choose. It is often convenient and even necessary to obtain that opinion upon a state of facts falling short of what he or his opponent expects to prove, because the questioner cannot tell how much of the testimony the jury will accept; and if proof of the whole should fail, still proof of some essential part might be made and an opinion based on that part is entitled to be provided for the jury. For reasons of principle, then, and to some extent of policy, the natural conclusion would be that the questioner need not cover in his hypothesis the entire body of testimony put forward on that point by him or by the opponent, but may take as limited a selection as he pleases and obtain an opinion on that basis."

The principal case in California is *Treadwell v. Nickel,* 194 Cal. 243, at 267, 228 Pac. 25, at 35, where it was said:

"Every hypothesis contained in the question should have some evidence to sustain it. But while this is true, it is also the rule that it is not necessary, in framing the question, to include a statement of all the evidence in the case. The question may be framed

> upon any theory of the questioning party which can be deduced from the evidence, and the statement may assume any facts, within the limits of the evidence, upon which the opinion of the expert is desired. It may omit any facts not deemed by the questioner material to the inquiry. 10 Cal. Jur. p. 966, §223. It is the privilege of a party in such cases to assume, within the limits of the evidence, any statement of the facts which he claims the evidence justifies, and have the opinion of experts upon the facts thus assumed, subject to the limitation that the question shall not be unfair or misleading. Thompson on Trials, §§ 606-610; People v. Hill, 116 Cal. 562, 567, 48 Pac. 711. Measured by these considerations, the question here was not objectionable."

The propriety of the question with respect to the limitation of facts in it was largely for determination by the trial Court. In *Christiansen v. Hollings,* 44 C. A. 2d 332, at 348, 112 P. 2d 723, at 731, it was said:

> "Defendant also makes the familiar contention that the hypothetical question did not include all the relevant facts. Obviously, a hypothetical question need not necessarily include a statement of all of the evidence in the case—a question may be properly framed upon any reasonable theory of the questioning party. Coyne v. Pacific Mut. Life Ins. Co., 8 Cal. App. 2d 104, 47 P. 2d 1079. Moreover, the appellate court is justified in placing considerable reliance upon the determination of the trial judge in passing on the sufficiency of the facts narrated in the question. Weaver v. Shell Company, 34 Cal. App. 2d 713, 94 P. 2d 364; Graves v. Union Oil Co., 36 Cal. App. 766, 173 P. 618."

The cases cited at pages 29, et seq., of appellant's brief are nearly all instances of *affirmances* of the ruling of the trial Court, regardless of whether the question was allowed or disallowed. The case cited near the foot of their page 31, *Thoreau v. Ind. Acc. Comm.,* distinguishes on the ground of falsity in the hypothesis. Our hypothesis was based upon facts proved.

Moreover, the trial Court in overruling the objection invited appellant to cross-examine upon the question, R. 170, and there was cross-examination upon it, R. 217 to 221, in the course of the long cross-examination of Mr. Twining from R. 174 to 221, and recross at R. 225 to 227. As to cross-examination, it is said in *New York Life Ins. Co. v. Doerksen,* 10 Cir., 75 F. 2d 96, 102:

> "A hypothetical question should incorporate facts supported by evidence, but need not include all the facts in evidence nor facts or theories advanced by the adversary. If the adversary desires the opinion of the expert upon the facts as he asserts them to be, he can obtain it on cross-examination."

2. "Law relative to Pista's and Anderson's testimony". (Appellant's Brief, p. 33.) (a) Appellant argues that an experienced apricot orchardist is not qualified to testify about the injury done by the dust in an apricot orchard. Four orchardists testified: B. Pista, appellee, on his case in chief, R. 49; two called by *appellant,* J. J. Wilmoth, R. 381, and William D. Eiper, R. 399; and Leo Anderson, called by us in rebuttal for plaintiff, R. 530.

We did not object to the questions put by appellant to Wilmoth and Eiper, being content to cross-examine and

leave the weight of the evidence to the trial Court. And appellant did not object to the question put by us to our witness Anderson in rebuttal, R. 535 (bottom). Anderson having testified without objection, there is no basis in the record for appellant to assert error as to admission of his testimony.

(b) The testimony from Mr. Pista to which appellant objected is quoted at page 26 of their brief, and in substance is that if the dust had not fallen on his orchard he would have harvested "from 200 to 250 tons" of apricots instead of the 27 tons harvested, i. e., a loss of 173 to 223 tons. If there was error in admitting the testimony it was harmless, because Finding V, R. 32, puts the loss from dust at 133 tons, and the finding is based on evidence wholly independent from Pista's testimony. (See bottom paragraph of page 3 of appellant's brief.) In short, the trial Court disregarded the answer of Mr. Pista to which appellant objects.

(c) If there was error, appellant waived it. "Error in the admission of evidence is waived where the party aggrieved thereby subsequently introduces the same evidence", 5 C. J. S. 193, note 41. Subsequent to the admission of Pista's evidence at R. 66 giving the opinion of an apricot orchardist that the dust caused injury to a crop of apricots, appellant introduced testimony from two apricot orchardists, Wilmoth, R. 381 at 383-384, and Eiper, R. 399 at 401-402, as to the sole cause of a short crop in 1943. Some of the dust fell on Wilmoth's orchard; none fell on Eiper's. Thereafter, our rebuttal witness Anderson, R. 530, whose apricot orchard is in sub-

stantially the same area of dustfall as ours but nearer the kiln stacks, gave the following testimony without objection to its admission, R. 535:

"Q. State whether or not any dust traveled from this plant, whether you observed any of this dust traveling through the year 1943 over to your orchard.

A. Yes, sir.

Q. Now, Mr. Anderson, what do you believe to be the reason for your 17 acres producing no more than 10 tons in the year 1943?

A. I believe a covering of dust on the blossoms killed, you know, the blossom so it would not form fruit."

(d) There was no error in admitting Pista's testimony. This is the appellate question:

"The determination of the competency of a witness to testify as an expert is in itself in the nature of a trial of a question of fact addressed to the judge alone, and as in other decisions on questions of fact by a trial judge, his ruling thereon, being a matter of discretion, will not be overturned on appeal save and except when there is an actual want of evidence to support it or a clear abuse of discretion in ruling upon the evidence proffered upon the subject. When there is any substantial evidence to support the ruling of the trial judge, it will be upheld."

Mirich v. Balsinger, 53 Cal. App. 2d 103, at 114, 127 Pac. 2d 639, at 644, col. 2.

"Therefore the question of whether she was qualified to give her opinion as evidence in the matter in issue was one for the decision of the trial judge in the first instance, and the qualifications of the

witness are to be determined by the trial court before such opinion may be given. Fairbank v. Hughson, 58 Cal. 314. It is in itself in the nature of a trial of a question of fact by evidence addressed to the judge alone, and as on other decisions on question of fact by a trial judge, his ruling thereon is a matter of discretion and will not be overturned on appeal unless there was an actual want of evidence to support it or a clear abuse of discretion in ruling upon the evidence given on the subject. Howland v. Oakland, etc., Co., 110 Cal. 513, 521, 42 P. 983; Mabry v. Randolph, 7 Cal. App. 421, 427, 94 P. 403. If there is any substantial evidence to support the ruling of the trial court, it will be upheld. If the court had decided to admit the expert testimony here in question, such decision would in like manner be sustained. There being in the record evidence to support the ruling of the trial judge, and perceiving no abuse of discretion in such ruling, we cannot say that it was sufficiently prejudicial to warrant a reversal. Rudat v. Carithers, 137 Cal. App. 92, 97, 30 P. 2d 435."

Johnson v. Western Air Express Corp. 45 Cal. App. 2d 614 at 630, 114 Pac. 2d 688 at 697, col. 2.

Here, the evidence shows that the witness Pista owned the apricot orchard. He planted most of the 44 acres of apricot orchard in the year 1911, R. 50, and the remainder in 1916, R. 51. In six or seven years after planting, the trees came into full commercial bearing, R. 51, i. e., most of the trees were in full commercial bearing for 25 years before the dust damage in 1943. Throughout that quarter of a century, he was the expert manager of this commercially producing apricot orchard with continuous ob-

servation through the 25 years of the conditions in each year and their practical effect upon each annual crop, and he had the orchard under his personal observation and supervision during the dustfall in the year 1943, R. 52, two or three times a week, R. 55.

In *Watson v. Colusa-Parrott Mining & Smelting Co.*, 31 Mont. 513, 79 Pac. 14, a question arose on the competency of farmers of riparian land below a concentrating, smelting and reduction plant to testify to the extent of damage from the nuisance tort through the deposit of substances from the plant in the stream at a point above the farms. *Inter alia,* the Court said (79 Pac. at 17, col. 1):

> "In considering the testimony of witnesses as to the amount of plaintiffs' injury because of the nuisance, however, we enter the domain of opinions, inferences, and conclusions of witnesses. As to nonexpert witnesses, the general principles of evidence require them to testify as to facts within their own knowledge, and not to opinions, inferences, and conclusions from existing facts. Section 3121, Code Civ. Proc. There are, however, many exceptions to these principles, and no general rule can be announced whereby the existence of all these exceptions can be accurately stated. But some are so generally accepted that no rule as to the determination of their existence need be invoked. For instance, this court has recognized the exception of proof of value when the witness has shown himself qualified to express an opinion thereon. Holland v. Huston, 20 Mont. 84, 49 Pac. 390. Emerson v. Bigler, 21 Mont. 200, 53 Pac. 621; Porter v. Hawkins, 27 Mont. 486, 71 Pac. 664. This exception has been recognized by the courts almost uniformly. We have seen that the measure of damage to the land permanently injured is the difference

between its value before and after the injury. Given testimony of this value, which may be shown by the opinions of nonexpert witnesses, the determination of the amount of injury or damage is a mere matter of computation, and upon reason and weight of authority, its computation may be made and given to the jury by nonexpert witnesses when they do so in connection with the facts showing competency. Lewis on Eminent Domain. §§ 436, 437, and cases cited; Rogers on Expert Testimony, 154, and cases. The knowledge of the witnesses can always be thoroughly tested on cross-examination, and a jury can be trusted to give the evidence such weight only as it deserves.''

The governing principle is well stated in the opinion on rehearing in *St. Louis & S. F. Ry. Co. v. Bradley,* 5 Cir., 54 Fed. 630, at 633-634, as follows:

"He was an expert for the case; not a scientific one, but a practical one. His opportunities for observation and the character and sufficiency of his experience were fully shown. It was for the jury to determine the weight to which his opinion was entitled. As a matter of law, the qualification of a witness to testify as to cause and effect in a given case is a question for the trial judge, and his ruling will not be disturbed unless clearly erroneous. 'Whether a witness called to testify to any matter of opinion has such qualifications and knowledge as to make his testimony admissible is a preliminary question for the judge presiding at the trial, and his decision of it is conclusive, unless clearly shown to be erroneous in a matter of law.' Manufacturing Co. v. Phelps, 130 U. S. 520, 9 Sup. Ct. Rep. 601, citing Perkins v. Stickney, 132 Mass. 217; Sorg v. German Congregation, 63 Pa. St. 156. The Massachusetts

case holds that the decision of the trial judge is conclusive, unless it appears upon the evidence to have been erroneous, or to have been founded upon some error in law; citing Nunes v. Perry, 113 Mass. 274, and Com. v. Sturtivant, 117 Mass. 122. In Sorg v. German Congregation, supra, it is said: 'This preliminary question of fact as to whether a witness is an expert qualified to pronounce an opinion, as we have held in Oil Co. v. Gilson (decided in this term,) must, in a great measure, be confided in the discretion of the court below trying the cause, and we will not reverse either on account of admission or rejection of such evidence unless in a clear and strong case.'

In Oil Co. v. Gilson, 63 Pa. St. 146, referred to, it is said: 'An expert, as the word imports, is one having had experience. No clearly defined rule is to be found in books as to what constitutes an expert. Much depends upon the nature of the question in regard to which an opinion is asked. There are some matters of which every man with ordinary opportunities of observation is able to form a reliable opinion. Wilkinson v. Moseley, 30 Ala. 562; De Witt v. Barly, 17 N. Y. 340. It is not necessary, as it is said in one case, to call a drover or butcher to prove the value of a cow, (Railroad Co. v. Irvin, 27 Ill. 178); nor is it imperatively required that the business or profession of the witness should be that which would enable him to form an opinion, (Van Deusen v. Young, 29 Barb. 9; Smith v. Hill, 22 Barb. 656; Price v. Powell, 3 N. Y. 322; Fowler v. Middlesex, 6 Allen 92.) * * * While undoubtedly it must appear that the witness has enjoyed some means of special knowledge or experience, no rule can be laid down in the nature of things as to the extent of it. It must be for the jury to judge of the weight to which his opinion is entitled.' ''

DISCUSSION OF QUESTIONS 4 AND 5.

We argue these two questions together because they blend.

The argument for appellant reduces to the proposition that the damage in 1943 is explainable on the basis of natural causes operating in that year, and from that appellant argues that there can be no basis other than surmise or conjecture to conclude that the dust oxides and hydroxides caused any damages. This case is not the first one in which such an argument has been made. The Federal Courts and the Courts of California have often analyzed that type of argument and have as often ruled it to be unsound. For example, in *Learned v. Castle,* 78 Cal. 454, the water that flooded plaintiff's land came in part from the defendant's nuisance and in part from natural causes. As stated in the opinion (78 Cal. at 457-458):

> "The action was commenced in August, 1878; and the first main damage to plaintiffs' land by the said alleged turning of the water upon it is averred to have taken place in January and February of that year. There is no doubt that in those months a very large quantity of water was caused, by said acts of defendants, to flow upon plaintiffs' land. It happened, however, that at that time, owing to unusual floods, other large quantities of water also flowed upon plaintiffs' land from natural sources; and this coincidence seems to have been the cause of much of the confusion and conflict which appear in the findings of the court and the answers of the jury to the issues presented to them. It seems to have been thought that, as the water which flooded the land from other sources would probably, or certainly, have caused the damage averred

in the complaint, if the water caused to flow there by the acts of defendants had not been mingled with it, therefore the latter should not be considered as having added much to the injury. (It may be remarked, however, that it is difficult to find the principle upon which damage done by commingled water, coming from two sources, can be attributed to one of the original sources rather than the other.)"

Inter alia the Court ruled (78 Cal. at 460-461):

"It clearly appears in the evidence that at that time plaintiffs were largely and seriously damaged by water flowing onto and over their land, and that a very large part of that water was caused to flow there by the acts of defendants. It is true that when the damage was done *at that time*, the water from the canal was mingled with water from other sources, which (it may be admitted) was of a larger volume than that of the water brought there by defendants; and it may have been difficult to separate the mingled elements of mischief, and calculate with any great exactness the proportionate amount of damage done by each. But surely there was no warrant for finding that all the damage was done by the other water, and none (practically) by the water poured onto plaintiffs' land by the canal. A wrong-doer who contributes to a damage cannot escape entirely because his proportional contribution to the result cannot be accurately measured. (In a case like the one at bar, it would be at least as near justice to hold him for all the damage as to hold him for none."

The rule of *Learned v. Castle,* supra, was applied in *Hanlon Drydock & Shipbuilding Co. v. Southern Pacific Co.,* 92 Cal. App. 230, where the question was whether

the fire damage would have occurred in any event even though the blocking of a street crossing by a train had not caused some delay to the firemen in reaching the fire. *Inter alia* the Court said (92 Cal. App. 235):

> "Finally, it is argued that respondent could not recover in any event because the damages it suffered were speculative, contingent, and remote. When the acts complained of are the proximate cause of the damage suffered the guilty party is not to be relieved merely because the extent of the damage cannot be accurately measured. (17 Cor. Jur., p. 756, 759; Learned v. Castle, 78 Cal. 454, 461 [18 Pac. 872, 21 Pac. 11].) It has been said that where the circumstances are such that an exact computation of the damages cannot be made, 'the approved practice is to leave it to the good sense of the jury, as reasonable men, to form from the evidence the best estimate that can be made under the circumstances, as a basis of compensatory damages for the actionable injury.' (Jenkins v. Pennsylvania R. Co., 67 N.J.L. 331 [57 L.R.A. 309, 51 Atl. 704, 705].) Here the evidence tended to prove that when the firemen endeavored to cross the railroad tracks the fire was confined to a rubbish pile in the yard and had not reached the building in which the property lost was stored. It is respondent's contention that if the street had not been blocked by appellant the firemen would have been able to prevent all this loss and hence that the damage could have been easily ascertained."

It appeared in the case of *Katenkamp v. Union Realty Co.*, 36 Cal. App. 2d 602, that either the breakwater or the groins could alone have caused the damage. The defendant was responsible for the groins but not for the breakwater,

i.e., for only one of two causes. The Court applied the rule as stated in 26 R.C.L. 764, as follows (36 C.A. 2d at 619):

> " 'The weight of authority is to the effect that where separate and independent acts of negligence of two parties are the direct causes of a single injury to a third person, and it is impossible to determine in what proportion each contributed to the injury, either is responsible for the whole injury; and this although his act alone might not have caused the entire injury, and although, without fault on his part, the same damage would have resulted from the act of the other.' "

In *Zinn v. Ex-Cell-O Corp.*, 24 Cal. 2d 290, 297, 149 Pac. 2d 177, 181, col. 2, it is said:

> "One whose wrongful conduct has rendered difficult the ascertainment of the damages cannot escape liability because the damages could not be measured with exactness. Pacific, etc., Co. v. Alaska Packers' Ass'n, 138 Cal. 632, 638, 72 P. 161; 15 Am. Jur. 412, and cases cited."

The Supreme Court of the United States, in *Miller v. Union Pacific R. Co.*, 290 U.S. 227, at 236-237, stated the rule as follows, through quotation from another case:

> "The truth of the matter is that the causes of the injury were concurrent. The accumulation of the gas was one; the lighted match was the other. The effect of the former had not ceased, but co-operated with that of the other in effecting the injury. In such case an inquiry about the proximate cause is not pertinent, for both are liable."

So in *Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555, 563:

> "Where the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it would be a perversion of fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer from making any amend for his acts. In such case, while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although the result be only **approximate**. The wrongdoer is not entitled to complain that they cannot be measured with the exactness and precision that would be possible if the case, which he alone is responsible for making, were otherwise. Eastman Kodak Co. v. Southern Photo Materials Co., 273 U.S. 359, 379, 71 L. ed 684, 691, 47 S. Ct. 400. Compare The Seven Bros. (D.C.) 170 Fed. 126, 128; Pacific Steam Whaling Co. v. Alaska Packers' Asso., 138 Cal. 632, 638, 72 Pac. 161. As the supreme court of Michigan has forcefully declared, the risk of the uncertainty should be thrown upon the wrongdoer instead of upon the injured party. Allison v. Chandler, 11 Mich. 542, 550-556. That was a case sounding in tort, and at page 555, the court, speaking through Christiancy, J., said: 'But shall the injured party in an action of tort which may happen to furnish no element of certainty, be allowed to recover no damages (or merely nominal), because he cannot show the exact amount with certainty, though he is ready to show to the satisfaction of the jury, that he has suffered large damages by the injury? Certainty, it is true, would thus be attained; but it would be the certainty of injustice. * * * Juries

are allowed to act upon probable and inferential, as well as direct and positive proof. And when, from the nature of the case, the amount of the damages can not be estimated with certainty, or only a part of them can be so estimated, we can see no objection to placing before the jury all the facts and circumstances of the case, having any tendency to show damages, or their probable amount; so as to enable them to make the most intelligible and probable estimate which the nature of the case will permit.' ''

In the Ninth Circuit the rule was recently stated as follows, in *Husky Refining Co. v. Barnes,* 9 Cir., 119 F. 2d 715, at 716, col. 2:

"Where the independent tortious acts of two persons combine to produce an injury indivisible in its nature, either tort-feasor may be held for the entire damage—not because he is responsible for the act of the other, but because his own act is regarded in law as a cause of the injury. Miller v. Union Pacific R. Co., 290 U.S. 227, 54 S. Ct. 172, 78 L. Ed. 285; Washington & G. R. Co. v. Hickey, 166 U.S. 521, 17 S. Ct. 661, 41 L. Ed. 1101; Cordiner v. Los Angeles Traction Co., 5 Cal. App. 400, 91 P. 436; The Koursk [1924] P. 140, 40 T.L.R. 399, 131 L.R. 700; Restatement, Torts, vol. 2, § 430, Comment d; 19 Cal. L. Rev. 630; 25 Cal. L. Rev. 413, 432, 24 Col. L. Rev. 891; 21 Minn. L. Rev. 616."

Turning more directly to an analysis of a situation wherein there has been damage in an orchard from two or more causes only one of which was dust, the matter was decided in *California Orange Co. v. Riverside Portland Cement Co.,* 50 Cal. App. 522, 195 Pac. 694, from which we quote:

"In cases of this sort, the law is that, if it be impossible to distinguish between the damage arising from the defendant's actionable injury and damage which has another origin, the jury, or the trial judge if the cause be tried without a jury, should be left to make from the evidence the best possible estimate, and to award the plaintiff compensatory damages for the actionable injury. In Jenkins v. Pennsylvania R. Co., supra, the rule was stated as follows: 'It many times happens that the damage arising from an actionable injury, chargeable to the defendant, is, in the nature of things or from the circumstances of the case, indistinguishable from other damage occurring at the time, attributable to the acts of an independent tort-feasor or to natural causes. In such cases, since the injured party cannot supply the materials necessary to enable the jury to make an exact computation of the damages in suit, the approved practice is to leave it to the good sense of the jury, as reasonable men, to form from the evidence the best estimate that can be made under the circumstances, as a basis of compensatory damages for the actionable injury.' The evidence here shows that plaintiff's grove, though not subject to any greater damage from the elements than other groves situated outside the zone of falling cement **dust, did not produce as did the groves similarly situated outside the dust zone.** W. B. Gregor, who had a grove about a mile and a half north of defendant's property, testified that there was no deposit of grayish substance on the trees in his grove, and that the blossoms on his trees did not fall off as they did from the trees in defendant's grove. From the foregoing we think it clear that the evidence shows that plaintiff's orchard suffered substantial damage, directly attributable to

> defendant's wrongful operation of its cement plant, whereby cement dust, in quantities sufficient to cause material injury, was precipitated upon plaintiff's citrus trees, and that therefore the evidence is sufficient to support the findings of which appellant complains."

In other words, evidentiary support of the award was found by comparing the crop of the orchard within the dust zone with the crop of another orchard outside the dust zone but *otherwise subject to the same natural causes and elements.* We have fuller, clearer and stronger evidence of that kind in the case at bar. Mr. Lewis, Deputy Agricultural Commissioner for Monterey County, R. 84, acted in a consulting or advisory capacity in the conduct of the Bardin and Anderson orchards in the years 1942 and 1943, R. 712, and has been "called in a number of times on the Pista orchard for advice", R. 712. Through the years Lewis' personal examinations of orchards and his estimates have been the basis of State and Federal crop estimates covering Monterey County, R. 86. In 1942 and 1943 he inspected practically all the orchards in Monterey County, R. 87. He inspected the Pista orchard in the latter part of September, 1942, and found that it then had "a fairly good set of fruit buds," R. 89, enough if they developed to give a good bloom in the spring of 1943, R. 89. On that occasion he observed the "white dust" in the orchard for the first time, R. 89. He next inspected the Pista orchard in the latter part of February, 1943, when the buds had "not yet quite" reached the pink bud stage, or point of spraying, R. 90, and they gave promise of a fair blossom, i.e., the trees when they bloomed

out would be white; enough bloom that if a certain percentage of them set there would be enough apricots to give a good crop, R. 92. At that time the dust was easily visible; there was a white coating of it on the trees and the ground, R. 91. He next visited the Pista and nearby orchards the first week in March, 1943, about spray time, R. 93. Except for the dust, the Pista and Anderson orchards should have set apricots as well as the Bardin and Stirling orchards, and on the basis of set and yield of the latter the Pista orchard should have had a set producing a crop of 280 tons, and there is nothing but the dust to explain the "crop" of 27 tons, R. 93-104, R. 714. Mr. Lewis used the Bardin orchard as being the closest parallel of the Pista orchard. They were closely alike in all respects in 1943, excepting that the Bardin orchard was outside the range of the dustfall. He testified, R. 101:

"Q. What set of apricots did the Pista orchard have as compared to whatever set it was that the Bardin orchard had?

A. Well, the Bardin orchard had about a 60 per cent——

Q. 60 per cent of what?

A. Of what you would call a full crop.

Q. And the Pista orchard had what per cent?

A. Between a 5 and 10 per cent.

Q. If we take that 60 per cent, whatever that phrase may mean with respect to an apricot crop, if there had been the 60 per cent set in the Pista orchard as in the Bardin orchard, what should that have produced in tons in the Pista orchard in 1943?

A. I gave you that before.

Q. Pardon me?

A. I gave you that before.

Q. I may have overlooked it. Will you give it to me now?

A. About 280 tons.

Q. You said a normal crop on that ranch would be 280 tons, is that correct?

A. On the Pista?

The Court. Let us approach it another way.

Q. You said a normal crop would be 280 tons?

A. For last year.

Q. For last year?

A. Yes, your Honor.

Q. 1943?

A. Yes.

The Court. That is what I thought.

Mr. Naus. Q. That is a normal crop under all the conditions that you observed?

A. Under the conditions, yes."

The Bardin 60% gave effect to the rainfall and its prevention of the setting of fruit on the first and second blooms and the confinement of setting to the third bloom. (See pages 9 and 10 of appellant's brief.) It is apparent that the setting of fruit occurred on the third bloom after the rain stopped. Appellant's witness Packard admitted on cross-examination, R. 684:

"Q. Wasn't there a period of bloom after the last heavy rain during the blooming period generally?

A. Yes, and that, of course, is my reason why—for saying that the third bloom set. The third bloom came after the heavy rains and continuous rains had stopped. At that time the days became clear, and when they became clear you got rid of that mucky, warm weather, or the temperature at night dropped very much below the temperatures in the previous

> period, dropped down to 38, 27, in there, in the night time, and in the day time you had bright days, and the heat of the direct sunlight had more to do with the opening and the proper fertilization of apricot trees than does the temperature, itself; so during those clear days when the sun hit the blossoms directly it not only dried the pollen out so that it was available for pollination, but it also enabled the bees to go through the orchard and carry on their process in helping this pollination process."

The first bloom in the Bardin orchard started the first week in March, R. 110, and started in the Pista orchard around five days later, R. 110. It started in the Pista orchard around March 10 and the three blooms extended through three weeks, R. 696. In other words, there was longer freedom from rainfall during blooming in the Pista orchard than in the Bardin orchard, thus favoring better setting of fruit in the absence of dust.

Nature provides blossoms in profuse abundance at the rate of 60,000 per tree for an apricot tree, R. 673, or 20 times as many blossoms as will ever mature, R. 673. Appellant's witness Packard admitted, R. 675:

> "Q. Speaking of apricots, without regard to the Pista orchard, and without regard to the year 1943, but all apricot trees in California in all years, is it or not the fact that apricots tend under favorable conditions to set heavily?
>
> A. Yes.
>
> Q. Is it or not the fact year by year and in apricot orchards generally, that thinning is a very common practice from year to year?
>
> A. Oh yes, yes, sir.

Q. Is it or not the fact that, speaking generally, apricot trees have to be thinned in order to produce nice fruit of a proper size?

A. Yes.''

To meet Mr. Lewis' official crop estimate of 280 tons of apricots that in the absence of dust should have been produced from the Pista orchard in 1943 at the rate of 7 tons an acre for 40 full acres (after all deductions), would require setting, maturity and harvest of only 2000 to 2400 apricots harvested at 10 to 12 per pound (7 tons or 14,000 pounds per 70 trees to an acre, or 200 pounds per tree), which means that only 3% to 4% of the 60,000 blossoms need set and mature to produce 280 tons of apricots in the Pista orchard.

An effort is made by appellant to weaken the testimony of Mr. Lewis, because he did not state in so many words that the dust caused our damage. Appellant's criticism of Mr. Lewis' testimony is wholly unfair to Mr. Lewis, because the witness did make it very clear that there was nothing whatever to explain the extent of the damage to the Pista orchard in 1943 *except the dust,* and the witness would not and did not go further in his answers, because he had never had any previous experience with such dust and had made no chemical or other scientific study of it and for that reason did not go further in his answers than he did. And Mr. Twining showed himself to be an expert of many years of experience in the course of which he has studied the dust damage problems of practically every cement plant in the state, scientific studies of the chemical nature of such dust and the chemical effect of it on blossoms in orchards and how the effect comes about, R.

182. Mr. Lewis' testimony shows that nothing whatever except the dust can explain the damage, and the scientific knowledge that Mr. Lewis felt he lacked to give a scientific explanation of the reason is fully explained by the scientific knowledge and long experience of Mr. Twining who clearly explained the scientific reason. Indeed, it was not necessary that Mr. Lewis go any further; he did not need to have the qualifications of an expert in chemistry, nor was it necessary to conjoin his testimony with Twining's expert explanation of the chemical process that caused damage. In *Rynveld v. Dupuis,* 5 Cir., 39 F. 2d 399, 400 (point 5), there was a reversal because of exclusion of evidence offered through an experienced crop estimator, and the Court approvingly cited *International Agriculture Corporation v. Abercrombie,* 184 Ala. 244, 63 So. 549, 49 L.R.A. N.S. 415, where it was ruled:

> "The court allowed witnesses who had qualified as expert witnesses on farming and agriculture, as to the particular land in question, to testify as to what amount of crops the defendant would have produced on the land but for the alleged fumes; the amount actually produced on the land in question with the fumes present, the value of the respective crops produced during the season in question, and the amount produced on land **similar** to that in question, during the same season, under like mode of cultivation, and with the same kind of fertilizers. We do not think there was any reversible error as to any of these rulings on the evidence. The witnesses were shown to be experts in that line of business, and familiar with the land in question, the mode of cultivation, and the amount and kind of fertilizers used; the season had passed when they testified; they knew what the land actually produced, with the fumes, and what

similar lands, under like conditions, had produced without the deleterious effect of the fumes; and they knew what the prices of the various products were in the market. In fact, the mode followed by the trial court would be the only mode which would be practicable to ascertain or to prove the amount of the damages (if any there were) in consequence of the fumes complained of.''

The judgment should be affirmed.

Dated, San Francisco, California,
January 28, 1946.

Respectfully submitted,
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